

U.S. Serial No. 09/693,908

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

2. (Previously presented) An adeno-associated virus (AAV) Rep78 mutant comprising an AAV Rep78 modified protein that binds to at least one DNA sequence obtained from one or more of a papillomavirus, an AAV, an oncogene or a HIV differently as compared to the binding of the corresponding wild-type AAV Rep78 protein as set forth in SEQ ID NO:6 to said DNA sequence, wherein said different DNA binding is selected from the group consisting of no DNA binding, weak DNA binding and enhanced DNA binding as compared to the binding of said wild-type AAV Rep78 protein.

4. (Currently amended) The AAV Rep78 mutant of claim 2, wherein said AAV Rep78 modified protein having no DNA binding or weak DNA binding to said DNA sequence is obtained from at least one of a papillomavirus, an AAV, an oncogene or a HIV, and wherein the no DNA binding or weak DNA binding results in the generation of higher levels of AAV DNA replication and virion numbers compared to the corresponding wild type AAV Rep78 protein.

5. (Previously presented) The AAV Rep78 mutant of claim 2, wherein said AAV Rep78 modified protein having enhanced DNA binding to said DNA sequence obtained from at least one of a papillomavirus or an oncogene, and wherein the enhanced DNA binding results in enhanced inhibition of at least one of a papillomavirus or an oncoprotein compared to the corresponding wild type AAV Rep78 protein.

6. (Previously presented) The AAV Rep78 mutant of claim 2, wherein said AAV Rep78 modified protein is selected from the group consisting of a truncated wild-type AAV Rep78 protein, a wild-type AAV Rep78 protein containing amino acid substitutions, a wild-type AAV Rep78 protein containing internal amino acid deletions, and a combination thereof.

7. (Currently amended) The AAV Rep78 mutant of claim 6, wherein said AAV Rep78 modified protein is a the truncated AAV Rep78 protein that binds to said DNA sequence, and wherein said binding results in enhanced inhibition of a papillomavirus or an oncogene compared to the corresponding wild-type AAV Rep78 protein.

8. (Original) The AAV Rep78 mutant of claim 7, wherein said DNA sequence to which said mutant binds is a promoter region of said papillomavirus, said AAV or said oncogene.

9. (Currently amended) The AAV Rep78 mutant of claim 8, wherein said papillomavirus promoter region is comprises nucleotides 14-56 of p97 of HPV-16 of SEQ ID NO:4.

10. (Original) The AAV Rep78 mutant of claim 7, comprising at least two truncated wild-type AAV Rep78 linked to form a multimer AAV Rep78 mutant.

11. (Currently amended) The AAV Rep78 mutant of claim 4, wherein said mutant is AAV Rep-77^{LG} [[,]] or AAV Rep-79^{FA}.

12. (Original) The AAV Rep78 mutant of claim 5, wherein said mutant is AAV Rep-192^{HG}.

13. (Previously presented) A fusion protein comprising an AAV Rep78 modified protein that binds to at least one DNA sequence obtained from one or more of a papillomavirus, an AAV, an oncogene or a HIV differently as compared to the binding of the corresponding wild-type AAV Rep78 protein as set forth in SEQ ID NO:6, and wherein said different DNA binding is selected from the group consisting of no DNA binding, weak DNA binding and enhanced DNA binding as compared to the binding of said wild-type AAV Rep78 protein.

14. (Previously presented) The fusion protein of claim 13, further comprising the *tat* protein of HIV linked to said AAV Rep78 mutant.

15. (Original) The fusion protein of claim 14, wherein said *tat* protein is the *tat* protein of HIV-1.
16. (Original) The fusion protein of claim 13, further comprising a maltose-binding protein (MBP) linked to said AAV Rep78 protein or said AAV Rep78 mutant.
17. (Original) The fusion protein of claim 16, further comprising the *tat* protein of HIV linked to said AAV Rep78 mutant.
18. (Original) The fusion protein of claim 17, wherein said *tat* protein is the *tat* protein of HIV-1.
19. (Previously presented) A pharmaceutical composition comprising at least one AAV Rep78 mutant according to claim 2 in admixture with a pharmaceutically acceptable carrier.
20. (Previously presented) A method of treating papillomavirus associated diseases or cancer comprising administering a pharmaceutical composition comprising at least one adeno-associated virus (AAV) Rep78 mutant in admixture with a pharmaceutically acceptable carrier to a patient afflicted with a papillomavirus associated disease or cancer, wherein said mutant comprises an AAV Rep78 modified protein that binds to at least one DNA sequence obtained from a papillomavirus, wherein said DNA binding is enhanced DNA binding as compared to the binding of the corresponding wild-type AAV Rep78 protein as set forth in SEQ ID NO:6 to the DNA sequence.
46. (Previously presented) The AAV Rep78 mutant of claim 2, wherein said no DNA binding or weak DNA binding results in the generation of higher levels of AAV DNA replication and/or AAV virion production compared to the corresponding wild type AAV Rep78 protein.